

PATENT SPECIFICATION

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DRAWINGS ATTACHED



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(54) MATTRESS

(71) We, PROFILIA-WERKE PRECKEL & WAELTERMANN G.m.b.H. & Co. KG., of 4722 Ennigerloh, Germany; a German company, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention concerns a mattress including a spring interior covered at least on the reclining surface thereof with a support layer of plastics material foam.

It is an object of the invention to provide a said reclining surface of such a mattress which is suitable for the normal requirements of a person using such a mattress and also for and more especially for, a person suffering from back or other spinal injury.

Special constructions have been proposed for persons with disc or spinal injuries in which inserts are provided in the mattress body and extending over the width of the mattress to provide arching of the reclining surface in the back region. Known mattresses are generally so constructed that a predetermined deformation of the reclining surface is provided which cannot be altered by the person suffering from disc trouble which is especially disadvantageous for persons suffering from severe disc injuries since they require occasional change of the reclining surface shape during reclining periods to relieve pain.

In accordance with the invention, a mattress of the kind referred to above is proposed and is characterised by the feature that between the spring interior and the foamed plastics support inflatable or water fillable members extending over the width of the mattress are arranged in the form of tubes or the like flexible hollow members.

The mattress constructed in accordance with the invention, in which the inflating bodies can be arranged in the head and foot portion and more especially in the back or spine portion, has the advantage over known mattresses in that it can be used both as a normal mattress and as a mattress for use

by persons suffering disc or spinal injury.

It has been found particularly expedient for the inflatable members and especially the inflating member arranged in the back region, to be supported by a rigid base. This ensures that the inflatable member is fully effective against the foamed plastics support, resulting in the advantageous strengthening of the foamed plastics support in the region of the inflating member.

In a further development of the invention, air bellows and deflating valves associated with the inflatable members are provided for, in or on the mattress and within reach of the person reclining on the mattress. This allows a person using the mattress to inflate or deflate the air tubes acting as inflatable members to any desired requirement arising during the rest period without having to leave the bed.

It has further been found advantageous especially for persons suffering from disc or spine injury, for the individual air tubes to be individually adapted to be inflated and deflated.

The invention will be described further, by way of example, with reference to the accompanying drawings in which:—

Fig. 1 is a longitudinal section through a mattress having air tubes in an uninflated state;

Fig. 2 is a horizontal section through the mattress of Fig. 1; and

Fig. 3 is a longitudinal section through the mattress of Fig. 1 with the air tubes being inflated.

The mattress 11 includes a spring interior 12 which is enclosed by foamed plastics material 13 which is thickened at the reclining surface or layer 131. Spaced air tubes 14 and 14' constituting inflatable members are arranged between spring interior 12 and foamed plastics layer 131 and are supported by a substantially rigid support 16.

The air tubes 14 and 14' are individually inflatable by means of air bellows 17 and 17' inserted in the mattress 11 at the head receiving end thereof and individually deflat-

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able by means of release valves 18 and 18' arranged in the sides of the mattress.

- 5 A plurality of suitable alternative or additional inflatable members may also be provided in the back or spine receiving region and also at the head and foot ends of the mattress. Air bellows and release valves may be arranged at any other suitable points in easy access to the person using the mattress.
- 10 It should be understood that, whilst the above description relates to air acting as filling medium for the inflatable members any other suitable media, such as water may be used for filling the tubes. If water is used as medium, the air valves will, of course, be replaced by corresponding water valves.
- 15 WHAT WE CLAIM IS:—

1. A mattress comprising a spring interior covered at least on the reclining surface with a support of foamed plastics material characterised by the feature that a plurality of inflatable or water fillable members are provided between the spring interior and the foamed plastics material support and extend over the width of the mattress in the form of tubes or the like.
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2. A mattress as claimed in claim 1, in which the inflatable or water fillable members are supported underneath by a rigid support.

3. A mattress as claimed in claims 1 and 2, in which air bellows and valves are provided for inflating and deflating the tubes and are arranged in or on the mattress within reach of a person reclining on the mattress.

4. A mattress as claimed in claims 1 or 2, in which air bellows and valves are provided for filling and removing water from the tubes and are arranged in or on the mattress within reach of a person reclining on the mattress.

5. A mattress as claimed in claim 3 or 4, in which the individual inflatable or water fillable members are adapted individually to be inflated and deflated or filled and emptied.

6. A mattress constructed and arranged to operate substantially as herein described and illustrated with reference to the accompanying drawings.

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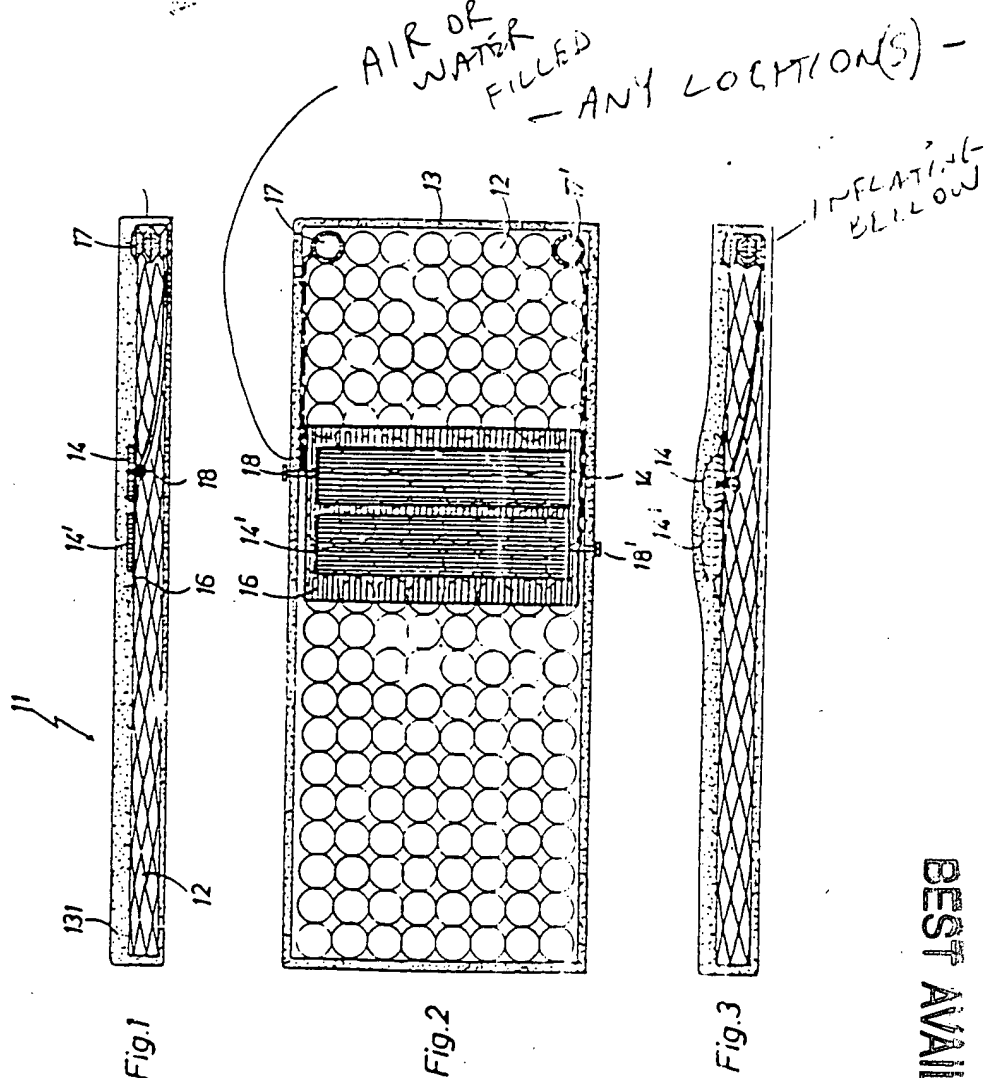
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